Thank you, Mr. Chairman, for the opportunity to appear before your panel today on the issue of the implementation of digital television. My name is Gregory M. Schmidt. I am Vice President, New Development, and General Counsel of LIN Television Corporation. I am pleased to represent the National Association of Broadcasters at this hearing.

LIN owns or operates 13 television stations, in various size markets.

This year we put KXAS in Dallas (now co-owned with NBC) on the air with a digital signal, after the long and still-continuing process of building new digital facilities. That was indeed a daunting experience -- one that consumed more time and resources than we had imagined – but one that, in the end, has left us in awe of the technology and of the extraordinary quality of the digital picture and overall viewing experience. It has also left us excited about other new opportunities digital television will offer us as broadcasters – and our viewers – once the digital television future begins to unfold – opportunities like web-like content features, companion data and information, customized advertising and product information, etc.

I hope that you and/or members of your staff joined us in March for our special high definition digital broadcast of the season opener of the Texas Rangers v. the Chicago White Sox baseball game that we satellite fed live to the Rayburn H.O.B. The broadcast and the incredible new television screens we saw that day knocked our socks off (which is what we hoped the Rangers would do). We're sure that our viewers will be equally wowed –when they get the opportunity to see these fantastic new digital signals.

New viewing experiences and services for the consumers and viewers are of course the point here. It is the consumers for whose benefit all this is being done. We believe that they will love it. That they will buy it. But they will buy DTV sets only when they get a

chance to see and taste HDTV and DTV, and only if they have confidence that the DTV sets they might buy – at a real premium to today's sets – will work, will work with their cable system, and will receive via that cable system the various DTV broadcast offerings available.

Congress, in the Telecommunications Act of 1996 and in the Balanced Budget Act of 1997, has endorsed this bright new digital television future for consumers, accompanied as it eventually will be by ancillary services not yet contemplated by the providers, much less by the viewers. And Congress has made it clear – in fact mandated – that the transition to digital television broadcasts must be achieved in a far shorter time period than broadcasters, the FCC and other involved industries originally anticipated. Congress has set a deadline for the DTV transition to be completed by the end of 2006 so that the analog TV channel of each broadcaster can be returned to the government to be put to other uses.

But Congress has recognized that the DTV transition in any market can be considered complete enough for return of the analog channels in 2006 *only* if

all affiliates *of the four largest television networks are* ***on air*** with a digital service ***and*** *only if*

85% or more of TV households receive a **cable** service (or another MVPD) that carries a digital channel of ***all*** **local DTV broadcasters**, **or**

85% or more of TV households have **DTV sets or converters** capable of receiving the DTV service of **all local broadcasters**.

Thus, *fulfilling the will of Congress* as to the return of the analog spectrum **depends on** b**roadcast affiliates being on air, cable's carrying local DTV channels and consumers buying DTV sets or converters**.

I believe that *having a successful DTV transition at all* depends on the very same factors. I appear before you here this morning to

report on the status of the implementation of DTV, and therefore on the prospects for *or obstacles to* achievement of these sine qua non's of the DTV transition: broadcasters on air, cable's carrying local DTV broadcasts and consumers' buying DTV sets or converters.

My short take: broadcasters are full speed ahead towards DTV; cable carriage is uncertain at best; and consumers' buying DTV sets will be frustrated by uncertainty about these sets working with cable and about reception of broadcast DTV signals, both via cable and over the air.

Broadcasters Are On Schedule

Last year the FCC and the broadcast industry agreed to a *very aggressive* rollout schedule for digital television. LIN Television and some 23 other mostly network-affiliated stations in the top ten television markets agreed to voluntarily be on air with DTV by November 1, 1998. (*See* Attachment 1.) I am happy and proud to report that, in the face of tremendous cost, many snafus, unexpected problems, and a very short time frame, *the DTV volunteers are, for the most part, on track for the November 1 start*. And so too are the remaining *network affiliates in the top ten markets* which are scheduled to go on air by May 1, 1999.

The DTV volunteers filed their most recent progress report on May 1, 1998. Those reports reveal that the great majority anticipate being on air by the November 1, 1998 starting date. There are among this group four tower problems and two Canadian coordination issues, all of which are beyond the stations' control. Some of these may still make November 1; only one appears unlikely to make that date (because of lack of timely Canadian coordination to order equipment). Two stations among the problem group have volunteered sister stations in other markets to be on air by November 1 should the designated stations not make it.

The affiliates of the four largest networks in the top ten markets are required by FCC rule to be on air by May 1, 1999. Thirty-seven of those 40 stations timely filed their applications for DTV construction permits (CPs), with three stations requesting 3 month extensions to attempt to work out tower problems. Seventeen CPs have already

been granted in this group. Seventeen others in this group are pending Canadian or Mexican coordination, which reportedly is proceeding apace. (Channel-specific equipment cannot be ordered until channel assignments are cleared with these bordering countries.) Two stations in Washington, DC are pending FAA approvals, and three stations in San Francisco are ready for grant, but their local approvals are being appealed by private parties.

The four affiliates in markets 11-30 (80 stations) are scheduled to be on air with DTV by November 1, 1999 under the FCC's rules. These 80 stations are due to file their applications for construction permits by August 3, 1998. Eighteen applications have *already* been filed and 10 granted.

In all markets, 89 CP applications have already been filed, with 41 of these granted. Many more are ready for grant pending Canadian or Mexican coordination.

Broadcasters are *pushing ahead with DTV*, solving problems, substituting other stations where problems may frustrate voluntary deadlines, going on air early, banding together to jointly work out problems, moving antennas, building new towers. They are *not* throwing up red flags, hiding behind allowable extensions, shirking their DTV duty or bemoaning their tremendous financial outlays. They are moving steadily down the road to DTV. They will not be roadblocks for the DTV transition.

But they -- and we -- are concerned about obstacles to a successful DTV transition that are beyond broadcasters' control. I would like to now turn to a discussion of these obstacles.

Obstacles to the DTV Transition and to Congressional Deadlines

While broadcasters are full speed ahead with the DTV transition, there are obstacles that could slow and even threaten the DTV transition and cause the Congressional deadline for return of the analog spectrum to be missed, and missed by a wide mark.

Because of the very great concern about certain obstacles, the

NAB Television Board of Directors passed a resolution at its recent meeting calling on the FCC to take action to remove three obstacles: lack of inter-operability of DTV signals, cable and DTV receivers; lack of cable carriage requirements for DTV; and lack of receiver standards to assure intended reception of DTV broadcasts (*See* Attachment 2).

NAB and the Association for Maximum Service Television, Inc. (MSTV) has previously filed a substantial petition with the FCC concerning obstacles to the siting or raising of towers for DTV antennas. Issues with regard to tower leasing, strengthening or siting are posing problems in several markets. Many more such problems can be expected as stations in other markets begin to build-out.

Tower Siting Problems

For decades, stations – both radio and TV – have encountered difficulties in obtaining prompt local approval of tower site changes and antenna modification requests. In far too many cases, stations have found their requests delayed by years, with all the attendant costs of protracted proceedings. In some cases, new stations or improved facilities simply have not been built, due to local opposition and endless delay.

Broadcasters are not the only ones paying the price. The local viewing and listening public pays in terms of delayed or denied service. And the local taxpayer often foots the bill for a local regulation that simply duplicates the well established and comprehensive federal approval process.

It is broadcasters' position that the FCC should adopt a federal system that will hasten the local land use procedures related to the DTV rollout and will eliminate needless, duplicative and unnecessarily expensive local regulation of broadcast antenna siting – TV *and* radio. These concepts are now embodied in a Commission rulemaking proceeding.

NAB and its co-petitioner, MSTV, over a year ago urged the

Commission in a rulemaking petition to adopt rules that would place reasonable time limits on the local approval process and to eliminate regulatory duplication. In August of 1997, the Commission began such a rulemaking proceeding, seeking public comment on all the NAB/MSTV proposed rules

These proposed rules *would not* preempt localities' ability to make land use decisions; they would require that localities *exercise* their authority. Also, the full Commission had concluded that it has the legal authority to take these steps. There are no Fifth Amendment, Tenth Amendment or any other Constitutional barrier to the Commission adopting our requested rules.

Though some have characterized the FCC proceeding as one that would make the FCC a national zoning board, that clearly is not the case. Instead, the better perspective is to view this proceeding as one which will help stem the tide of localities becoming mini FCCs. If localities exercise their authority promptly, and do not duplicate federal regulation, the preemption rule would not be violated. A failure of the locality to make a timely decision – or to regulate in areas already subject to thorough federal review – must not be tolerated. An FCC which authorizes a broadcast facility must not stand idly by when a locality, in effect, unauthorizes it. Neither should the Congress tolerate such local intransigence.

Adoption of the FCC's proposals would not eliminate but rather only streamline the local review of broadcast tower/antenna siting requests. Localities still would be able to conduct local zoning/approval review according to general welfare principles and other traditional bases of local land use regulation. But, duplication of federal regulation no longer would be allowed – on issues such as potential signal interference, exposure to electromagnetic energy and tower height/appearance. In each of these three areas the FCC and/or the FAA have thorough regulatory programs that satisfy the need for public and governmental review. Localities still would be able to regulate land use on various bases, including non-RFR health and safety principles, such as concerns of tower structural strength. In this fashion they still will be able to protect their communities."

We believe the Commission's proposed rules in this proceeding are a reasonable accommodation of local interests and the federal interest in not only the DTV buildout but also the fundamental precepts of the 1934 Communications Act in fostering new and improved broadcast service. Furthermore and above all, such rules will help satisfy the public's interest in expanded and enhanced free, over-the-air broadcast service.

The record established in the FCC rule making is replete with examples of how broadcasters have experienced endless delays and obstacles in their attempts to construct FCC licensed facilities -- new stations and improvements to existing stations. Attachment 3 to this testimony offers only a few of countless examples of how localities have frustrated local broadcasters and frustrated the federal policy of expanded and improved broadcast service.

Just as under the FCC's proposed rule localities would be required to complete the local review process within the earliest practicable time period, we believe the Commission should act promptly as well in this rule making. Though the rule would apply to broadcasting generally, not just to those stations converting now to DTV, the federal interest in the DTV conversion process would be threatened by a delay in a FCC adoption of a rule intended to advance that process.

Thus far the FCC has not taken action in this rulemaking proceeding. Instead, it has announced the formation of a "strike force" of FCC staff, led by Commissioner Susan Ness, to help broadcasters and local governments resolve their DTV tower differences. While the formation of such a "strike force" signals FCC recognition that a problem exists, we are less than sanguine over whether such an "ombudsman" role by the Commission will be sufficient to ensure an orderly transition to DTV. As such, broadcasters still urge the Commission to avoid unnecessary delays in broadcast tower siting, including the DTV rollout, by exercising its full and clear jurisdiction, authority and force.

DTV/Cable/Consumer Equipment Interoperability

In order for consumers to buy DTV sets (and thus advance the transition), they must have confidence that DTV sets will work with cable, and with other devices, such as VCRs. Absent such confidence, they will sit on the sidelines, waiting for the kinks to be worked out. The Christmas 1998 selling season likely will not be a great one for DTV purchases because the DTV sets on the store shelves will not be able to connect to or communicate with digital cable boxes. This situation cannot be allowed to go on for much longer, if the DTV transition is to take hold.

Attachment 4 illustrates the interoperability issues concerning carriage of digital broadcast signals on cable systems. The cable and broadcast media differ in some aspects of the technical systems that will be used for distribution of digital television programs. For example, the cable industry has decided to use a different digital modulation method (QAM) from that specified in the FCC DTV Standard for terrestrial broadcasters (VSB). However, initial product announcements by manufacturers of DTV receivers indicate that there will be no DTV receivers available in 1998 that will accept such QAM-modulated cable signals. Therefore, while the development of cable-ready DTV sets continues to be a laudable goal for the future, in the near term digital set-top terminals will be necessary for consumers to access digital cable programs. However, currently planned digital set-top terminals will not include the necessary circuitry to decode all of the HDTV picture formats in the ATSC DTV Standard that will be used for digital terrestrial broadcasting. Consequently, successful delivery of digital broadcast signals via digital cable systems to consumers' DTV sets will require a universally acceptable method to pass through the broadcasters' digital signals from the cable system's set-top terminal to the DTV receiver. Further, this pass through capability should function without material degradation to the broadcast DTV signal, in order that consumers can take full advantage of the high quality HDTV programs being transmitted by broadcasters.

In the analog world, carrying a broadcast signal on cable with no material degradation implies that, if broadcasters deliver a

good quality picture to the cable headend, then the cable system will deliver a good quality picture to the subscriber. This is the basic meaning of the phrase used in the must-carry law. While this concept can also be applied in the digital world, the nature of the broadcast signal subject to no material degradation is fundamentally different. The criteria for satisfactory carriage of digital broadcast signals is not characterized by adequate subjective picture quality but rather as reliable delivery of a packetized data stream. No material degradation in the digital world implies that the broadcaster's data service packets are reliably delivered to the cable headend and the cable service provider would then reliably deliver the data service packets to the consumers' DTV receivers in such a manner that the original data bits are unaltered within their packets. The exact scheme used to transport the data packets from the headend to the subscriber's house can vary between media cable systems may prefer to carry those data service packets via QAM modulation whereas broadcasters carry them using 8 VSB modulation-- as long as the bit stream as delivered to the subscriber's DTV receiver is unaltered from the broadcaster's original bit stream.

The implementation of this concept requires a standardized connection for data exchange between the digital set top box and the DTV receiver. In fact, a high speed data exchange interface for passing audio/video transport streams from set-top terminals to DTV receivers has been proposed (called IEEE-1394). While much effort has been expended in industry committees to reach an agreement on all details of this inter-device interface, development of a completed standard has languished. As an unfortunate result, this interface will not be universally present on DTV receivers scheduled for introduction this year. This standard and its ubiquitous presence on all set-top terminals and DTV receivers is critical to universal compatibility between DTV sets and cable systems. As stated in our June 4, 1998 letter to FCC Chairman William Kennard (filed in CS Docket 97-80 on commercial availability of navigation devices and included here as Attachment 5):

> If common standards are to be achieved before incompatible and proprietary digital equipment -–and the accompanying

> consumer confusion and frustration – becomes prevalent, the Commission must step in to jump-start and focus the standard-setting process.
>
> The Commission should set a deadline of six months after adoption of the report and order in this proceeding for cable systems[ ] to adopt common or interoperable standards in the areas outline above, particularly the baseband DTV transport stream interface (*e.g.* the IEEE 1394 standard). The Commission should make clear that if that deadline is not met, the Commission will revisit the issue.

Time is of the essence to complete this work on an interface standard. Receiver manufacturers have indicated that it may take *as long as 12 months after a standard is set before it appears in products* to be shipped to retail stores. It is already too late to incorporate it in receivers slated for sale during the Christmas buying season this year. So while 24 broadcast stations were urged by the FCC to volunteer to get on the air this fall, the receivers that will be available to receive those transmissions will be lacking the interface necessary for appropriate interface with cable. *This situation must be corrected as quickly as possible and intervention from the FCC to effect that correction is sorely needed.*

Ultimately, incorporating the ability to receive digital cable signals in DTV receivers is a highly valuable goal, enriching the value of the DTV receiver to consumers. However, this requires confidence on the part of DTV receiver manufacturers that cable systems will adhere to a known transmission standard. While the cable industry has a standards organization, SCTE, that has developed a set of standards for digital cable transmission, it is a voluntary set of standards and it remains to be seen if the cable industry adopts the universal use of the SCTE standards. The importance of this issue is highlighted in our June 4, 1998 letter to FCC Chairman William Kennard (*See* Attachment 5):

> Common standards will assure consumers that they can purchase a DTV set or a set-top box that can receive undegraded digital broadcast television signals and can directly

attach the navigational device or set to the cable system or MVPD. These standards are important because they permit consumer manufacturers to know what transmission formats need to be demodulated, what video and audio formats need to be decoded, how to connect with the security code of such transmissions, and how to have DTV receivers or TV monitors connect and communicate with the set-top boxes or other navigation devices that might be mediating such transmissions.

Cable Carriage of DTV Signals

Without cable carriage of broadcasters' DTV signals to the 70% of viewers who see television only through cable, the entire DTV transition could falter, will certainly take years longer than Congress intended, and, quite possibly, could fail.

Just as consumers, in order to make the decision to *buy DTV sets*, need the certainty that the new DTV sets they might purchase will *work* with cable, they need the certainty that they *will receive all available DTV signals* over their cable system. Why would consumers go ahead with expensive DTV set purchases without knowing they will receive all DTV signals available in their market?

Giving consumers in the large markets the incentive of many available DTV signals was *exactly* the reason the FCC mandated multiple broadcasters to be on air with DTV by this next May. To fire up the DTV transition, the FCC cajoled multiple stations in the top ten markets to be on air by this coming November, in time for the Christmas selling season. Only if consumers start buying DTV sets and start the DTV transition snowballing, will the transition have any chance of ending by the Congressional deadline.

While broadcasters and consumer equipment retailers will encourage consumers to buy and install rooftop antennas to receive DTV signals off the air, history has shown that consumers with cable will only use cable for viewing over-the-air broadcasters. While re-vitalizing the option of antenna-based over-the-air DTV service might have been a possibility with a long DTV transition, it will not work for

this shortened transition.

This transition requires consumers to have every incentive to buy DTV sets *and certainly no disincentive as fundamental as not receiving available local DTV signals over cable*. The transition needs cable to carry all DTV broadcast signals to provide this basic incentive to the consumer.

Similarly, only if medium and smaller-sized broadcasters, in medium and smaller markets, have the certainty now that their DTV broadcasts will get through to their viewers via cable when they go on air, will those broadcasters have the incentive to continue full speed their plans to borrow money, hire consultants, order DTV equipment and push ahead to their DTV future. Absent such certainty, these broadcasters well may pause to see how the transition is going, rather than move ahead as they otherwise would. Those who were planning to build DTV earlier than their FCC deadline required may pause and wait.

Again, the Congressional deadline for the transition is keyed to consumers buying DTV sets and to cable's carrying local DTV broadcasts. Not only does the DTV transition support the FCC's requiring cable carriage of all local DTV signals and all local NTSC signals during the transition, the terms of the 1992 Cable Act requires such carriage.

The 1992 Cable Act, section 614(b)(4)(B), requires the FCC, *at such time*" as it sets advanced television signal standards, to open a proceeding to change the must carry rules to *ensure* cable carriage of advanced television signals. This the Commission has not done. The Commission adopted the new digital broadcast standard in December 1996. Since that time NAB has been urging the FCC to consider DTV must carry rules for just the reasons we advance here: *to provide consumers, broadcasters and the DTV marketplace with the certainty of consumer access to DTV signals that this transition demands.*

And the policy underpinnings of the 1992 Cable Act's adoption of analog must carry rules obtain with the same force to DTV: that is, to preserve free over-the-air television service and to preclude cable from acting as anti-competitive gatekeepers. Congress then found,

as the House Report recited, that all evidence indicates that, once a television set is connected to a cable system consumers will not watch signals available only over-the-air. *(H.Rept. No. 628, 102d Cong., 2d Sess. 54 (1992).* This rationale suggests that the DTV transition will be stillborn if DTV signals are not available to viewers over their cable systems. And, history has shown that, in the period before must carry, cable did exercise its gatekeeping power by refusing to carry 19-31% of all broadcast stations, including network affiliates, and 39% of all UHF independents.

While NAB consistently has urged the FCC to move forward to exercise the leadership necessary assure consumers, manufacturers and broadcasters that viewers will have access to the DTV signals the FCC is requiring of broadcasters, the FCC has sat on its hands. They have adopted a wait-and-see approach to cable carriage of DTV and that is hurting the transition before it has begun.

Cable operators have been encouraged by the FCC's hands-off approach to assert that no DTV cable carriage rules should be adopted. They want the FCC to trust them to carry the local DTV signals consumers will want, to entrust the DTV transition to them.

But the scheme the FCC has adopted, the early and mandatory broadcaster build-out schedule, is premised on broadcast DTV signals *being available to consumers to seed and start the transition*. It is not premised on cable operators waiting to see what DTV signals consumers want before providing them. Broadcasters have been designated the chickens in the proverbial question of who goes first, the chicken or the egg, and the whole point is that DTV broadcasts must be available to consumers to tempt them to taste the transition.

Without cable's serving up those DTV broadcasts to the 70% of viewers who see only cable, why would cable subscribers buy DTV sets? If 70% of consumers don't have an incentive to buy DTV sets, how can the transition succeed, much less do so by the early Congressional deadline? Cable simply must be part of the plan.

While cable carriage is a critical part of the DTV plan, it will not be the great burden that cable claims. Cable has argued that systems would be over-burdened if they had to carry DTV signals in addition to the analog signals they are already required to provide to consumers under the 1992 Cable Act. In fact, cable system capacity has grown

so quickly that, even when all stations are providing a DTV signal, the total burden of must carry on cable will be *less* than the burden analog must carry placed on cable in 1993.

Attachment 6 is a chart showing the growth and projected growth in channel capacity of the average cable system. As you can see, channel capacity has grown tremendously, and the expected rate of further growths increasing even more. Further, unlike the situation in 1993 when every television station became eligible for must carry at once, DTV stations will come on the air over time, so that cable capacity will be expanding as the demand for carriage occurs.

The evidence presented in cable's challenge to the analog must carry rules shows how little burden digital must carry would place on cable systems. The evidence there showed that, since passage of the 1992 Cable Act, total U.S. cable channel capacity has grown *every six weeks* by the total number of stations that had to be added to cable systems because of must carry, and *every six months* by the total number of stations that are now carried under must carry. Since the number of television stations has remained relatively stable since 1992, cable system capacity has far outstripped any burden that analog or digital must carry would place on cable systems.

The same is true for claims by cable program networks that digital must carry would harm them. Attachments 7 and 8 are copies of a letter from C-SPAN claiming that analog must carry caused it significant harm and a letter from NAB President and CEO Eddie Fritts demonstrating that, rather than being hurt by must carry, C-SPAN *gained millions of new subscribers* after must carry came into effect. Indeed, in the cable challenge to must carry, 21 cable programmers initially claimed that must carry had caused them to lose subscribers. After the facts came in, not one of those networks was able to demonstrate that their viewership had declined at all following must carry. Instead, like C-SPAN, they had higher numbers of subscribers following must carry. Digital must carry would not have a different effect.

Further, carrying digital signals will not cause an economic burden for cable systems. Existing analog cable systems can carry broadcast DTV signals without alteration or expense. If cable systems choose to upgrade to digital technology, they will then be able to carry two broadcast DTV signals on one 6 MHz cable pipeline, thus increasing their channel capacity, but there would be no requirement that cable systems ever undertake that expense. Further, what the DTV transition requires is that DTV signals be passed through to DTV receivers. Thus, cable systems should not be required to invest in new set-top boxes with the capability of decoding or converting DTV signals. Again, the technology that cable now has can be used to pass through DTV signals; while cable will benefit as much as broadcasters if systems upgrade, no system would be obligated to do so.

Thus, cable's claims that it will be over-burdened by having to do its part in the DTV transition by carrying broadcasters' DTV signals are belied by projections of its growth. But the need for FCC rules to require cable to do its part for the transition is in fact demonstrated by cable's protestations. Absent FCC DTV must carry rules, cable will gatekeep broadcasters' DTV signals and will let only those DTV signals *it chooses* through to 70% of the American viewing public. This part of the public won't have access to all the DTV signals the FCC has required to be on air to seed the transition. Cable will once again control what local signals 70% of the public sees. And, absent clear direction from the FCC, cable also will control the fate of the DTV transition.

Over-the-Air Reception of DTV

The FCC spent considerable effort to design a precise methodology for DTV service prediction and to develop a channel assignment plan that replicated each station's NTSC service for the new digital service. In order to reach current NTSC viewers with predicted DTV service, this method assumed and depends on receiver performance expectations in the areas of tuner noise figure (7 dB at UHF, for example), upper and lower adjacent channel interference immunity and other interference performance parameters. Moreover, recent

DTV field tests conducted in the Washington D.C. area have indicated that the amount of multipath in urban areas will require high performance adaptive equalizers in receivers to effectively combat this multipath and recover the DTV signal (*See* Attachment 9 Memorandum from Lynn Claudy to NAB TV Board concerning DTV field tests).

In declining to set minimum performance requirements for DTV receivers in the FCC's Sixth Report and Order and Reconsideration of the Sixth Report and Order (see Attachment 10), the FCC left this task to the marketplace. In fact, the receiver design community has not taken steps to insure that the DTV service areas precisely predicted by the FCC's computer will actually be consistently realized for consumers using commercially available receivers. The development of technical standards for appropriate minimum acceptable receiver performance is critical for the introduction of DTV receiver products that will support a reliable DTV service and gain the confidence of consumers in the early years of the transition. As indicated in the recent Resolution of the NAB Television Board of Directors (Attachment 2), NAB urges the FCC to revisit their previous decision to leave DTV receiver performance strictly to marketplace forces. As the Commission has served as a forcing function for broadcasters to build digital facilities, so should it provide leadership to make sure that DTV receivers will function properly in order that the DTV technology will gain the confidence of American consumers and the DTV transition can proceed rapidly.

This would not be the first time receiver concerns are not being resolved in the marketplace. In the 1962 "All-Channel Receiver Act,"[1] **the Congress passed legislation mandating that all TV receivers be equipped to pick up UHF as well as VHF television signals. Pursuant to the Act the FCC adopted rules that prohibited the shipment of television receivers in interstate commerce after April 30, 1964, if those receivers were not capable of VHF and UHF television stations.**

To achieve true comparability between UHF and VHF, the FCC adopted a series of performance and other standards for

[1] Pub. L. No. 87-529, 76 Stat. 150, (1962); 47 U.S.C. 303(s).

television receivers. These standards included compliance with a "UHF noise figure" requirement. That requirement improved the UHF "weak signal" performance of television receivers. A "picture sensitivity" standard also was adopted to achieve UHF/VHF comparability.

Also conducted pursuant to the Act were FCC rule makings that mandated standards for "comparable tuning" (*e.g.* "click stop" tuners and tuners where channels numbers are of equal legibility) of UHF and VHF channels. Effective in 1978 were FCC rules, again adopted in light of the terms of the Act, which required that a UHF antenna be attached or supplied with a television receiver if a VHF antenna were attached or supplied with the receiver.

Other Concerns

As I indicated earlier in this testimony, broadcasters are for the most part on track for the November 1, 1998 and May 1, 1999 start dates. Tower problems, as discussed above, remain a concern for some, and a potential roadblock as the transition rolls out into other markets. But an immediate roadblock to many early DTV broadcasters is the hold-up of DTV construction permits for lack of Canadian and Mexican coordination. A significant proportion of the 40 network affiliates that are required to go on-air with DTV by May 1, 1999, need such clearance, as do many of the November 1 DTV volunteers . Many, if not all, cannot with confidence buy channel-specific broadcast equipment without a permit to operate on their assigned channel.

We understand that the FCC is making significant progress towards resolving the coordination issues with Canada and Mexico, but we note here the current hold-up for many would-be DTV permitees.

Conclusion

Mr. Chairman, it has been an honor and a privilege to appear before this committee on behalf of the National Association of Broadcasters on the subject of the implementation of DTV. I am extremely excited about this brave new digital future we all are embarking on. I see broadcasters all over the country banking their and their companies futures on this new technology. I see them boldly and bravely stepping up to the plate to do the extraordinarily difficult job of changing over their entire physical facilities, with significant downsides to their bottom lines and with little promise of near-term upsides on the revenue side of the ledger.

I am confident that the viewing public will be amazed and even awe-struck by this new world of television viewing they are about to be introduced to. I am also confident that consumers will embrace DTV – so long as there are not significant *disincentives* to their becoming a part of the digital television revolution. I have outlined above what some of those disincentives, those obstacles, are, from today's vantage point. They can be summed up under the heading of consumer access to DTV.

As I see it, if the consumer has full and free access to DTV signals, the DTV transition will be a great success, and has a fighting chance to make Congress' end date deadline. If, on the other hand, the consumer does not have easy access to DTV signals and the confidence in the overall DTV system, to buy DTV sets, including operation with cable. I would write off the Congressional deadline, and hunker down for a long and uncertain DTV transition.